

REMARKS

Applicant would have preferred to submit the attached declarations as part of the response after final, but time constraints precluded this possibility. Applicant herein presents the declaration of Robert Petters, a professor of music at North Carolina State University. These declarations are submitted under 37 C.F.R. § 1.132. Professor Petter Curricula Vita is attached as Exhibit A. In his first declaration (attached as Exhibit B), Professor Petters explains the process by which he reviewed the Hale, Hoffman, and Choong references, and what conclusions he draws therefrom. The test which Professor Petters undertook mirrors the test for obviousness, wherein the hypothetical person of ordinary skill in the art had the references before him, and was contemplating the particular problem facing the inventor. That is, faced with the problem of creating a better music system and, based on the motivations in the references, in the knowledge of someone of ordinary skill in the art, and the nature of the problem facing the inventor, Professor Petters created his own music teaching system. It is relevant to note that Professor Petters' system has very little in common with the presently claimed invention. Professor Petters goes on to examine the differences between his music teaching system, the references, and the presently claimed invention. This comparison is present on page 4 of the first declaration (Exhibit B). What is perhaps most relevant from this declaration is that Professor Petters, when faced with the references cited by the Patent Office and a desire to create a better music teaching system, did not arrive at the claimed invention. Thus, this declaration provides evidence that the presently claimed invention is non-obvious over the references of record. Note further that on page 4A of this declaration, Professor Petters indicated that the MacCutcheon system is flexible in that it is able to be used by a broader range of people and thus is an inherently superior system than those present in the references of record. The declaration, on page 5, goes on to expound upon the advantages of the presently claimed invention, indicating its superiority over the references of record.

Professor Petters' second declaration (attached as Exhibit C) goes on to evaluate in greater detail the nature of the colors of the claimed invention relative to the references of record. This declaration, on page 3, question 7, indicates that a system that uses alliterative naming of visual colors that alliterate with note names as mnemonic device is innovative and non-obvious. Given Professor Petters' position as someone of exceptional skill in the art, the fact that an

alliterative note naming system is non-obvious to him is strong evidence that it would not be obvious to make an alliterative note naming system as recited in the present claims from the references of record. Professor Petters goes on to elaborate how he is unaware of any other reference which teaches such an alliterative note naming system despite his exceptional familiarity with the relevant art.

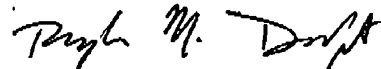
When the Patent Office reconsiders the invention of the present application, Applicant requests that the Patent Office consider the declarations of Professor Petters. Specifically, the declarations of Professor Petters indicate that it would not be obvious to someone of ordinary skill in the art to combine the references in the manner that the Patent Office has heretofore suggested. Furthermore, the declarations indicate that even if the references are combined, the combination does not teach or suggest the presently claimed invention.

In light of the evidence which shows that the presently claimed invention is non-obvious, Applicant earnestly solicits claim allowance at the Examiner's earliest convenience.

Respectfully submitted,

WITHROW & TERRANOVA, P.L.L.C.

By:



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Date: April 26, 2004  
Attorney Docket: 1061-001

<p align="center"><b>CERTIFICATE OF TRANSMISSION</b></p> <p>! HEREBY CERTIFY THAT THIS DOCUMENT IS BEING TRANSMITTED VIA FACSIMILE ON THE DATE INDICATED BELOW TO:</p> <p>Examiner: <u>Lockett, Kim</u> Art Unit: <u>2837</u> Fax: <u>703-872-9306</u></p> <p><u>J Harris</u> Name of Sender</p> <p><u>J Harris</u> Signature</p> <p><u>April 26, 2004</u> Date of Transmission</p>
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## EXHIBIT A

**RESUME**

Dr. Robert B. Petters  
Music Department  
North Carolina State University  
Raleigh, NC 27695  
(919) 515-8275

**EDUCATION**

Lawrence Conservatory of Music, Appleton, Wisconsin - Bachelor of Music [Music Education] 1963  
The University of Michigan: Master of Music [Music Education] 1965  
Ph.D. [Music Education] 1974

**TEACHING EXPERIENCE**

Public Schools: Menominee, Michigan (1963-64)  
Fort Atkinson, Wisconsin (1965-68)  
Blue Earth, Minnesota (1971-74)  
The University of Michigan:  
Graduate Teaching Fellow (1968-71)  
Assistant Professor of Conducting and Music Education (1974-76)  
North Carolina State University  
Assistant Director of Music (1976-95)  
Director of Music (1996--)

**OTHER CONDUCTING EXPERIENCE**

Conducting Student of Theo Alcantera and Elizabeth A.H. Green  
City Band: Fort Atkinson, Wisconsin  
Church Choirs: Menominee, Michigan; Appleton, Wisconsin; Whitewater, Wisconsin  
Blue Earth, Minnesota; Raleigh, North Carolina  
Duke University Chapel Summer Choir  
Youth Orchestras:  
Interlochen Summer Music Camp High School Orchestra  
North Carolina All-County/State Junior and Senior Orchestras  
Backstage Opera: The University of Michigan

**AWARDS AND HONORS**

Distinguished Teaching Fellow award: The University of Michigan  
Semi-Finalist: Nicolai Malko International Conducting Competition; Copenhagen, Denmark.  
Pi Kappa Lambda - honorary music fraternity  
City of Raleigh Arts Commission medal: Achievement in the Arts  
Phi Kappa Phi Honor Society  
Mu Beta Psi Music Fraternity Alpha Chapter (NCSU): Honorary member

**PUBLICATIONS**

Principles of Conducting for Music Teachers, (Campus Publishers, Ann Arbor, Michigan, 1969)  
How Student Participation in Decision-Making Processes About Musical Performance Affects Their  
Perception and Performance of Expressive Phrasing:  
Dissertation (University Microfilms, Ann Arbor, Michigan, 1974)  
"Student Participation in Decision-Making Processes Concerning Musical Performance"  
(Journal of Research in Music Education, 1976)  
An Introduction to Musical Experiences (McGraw-Hill Custom Publishers, 1992--; six editions)

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## COMPOSITIONS

Psalm 150 (SATB Choir and instruments)  
Benediction (unison choir)  
Let Their Hearts Speak Music (SATB Choir)  
Children's Suite (String Trio)  
Concertino (Solo Violin and Concert Band)  
Tax Sweet {and Sour} (Orchestra)  
Ceremonial March (Brass Band; premier performance at the Inauguration of  
Dr. Molly Broad as the President of the UNC System)

## ADMINISTRATIVE EXPERIENCE

Administrator: Michigan Youth Symphony (1974-1976)  
Chair: North Carolina Music Educators Association Orchestra Section (1981-82)  
Project Director/Administrator: Raleigh-Wake County Symphony Orchestra Development  
Association, Inc. (1976-1984)  
North Carolina State University:  
Division of Student Affairs: Chair, Professional Growth Committee (1997-98)  
Department of Music: Director (1995-)

## EXHIBIT B

Statement of Disinterested Objectivity & Confidentiality for Evaluation of Materials  
and of Professional Credentials of Evaluator

I Robert B. Petters declare that I am a disinterested party and have no prior knowledge, current material interest, or future material interest regarding the references I have been asked to review, as well as any other material presented to me by Jane MacCutcheon on this day, April 2, 2004, and that I intend to be objective in any evaluations I am asked to make.

I also promise to keep confidential the Evaluation data, including the data pertaining to the patent pending, and results of my evaluation, except for release to the U.S. Patent Office or with permission for release given by Jane MacCutcheon.

Reimbursement I receive is reasonable, and for my time only, and will in no way affect my objectivity.

For my records, I have been provided herewith a copy of this Statement, the original of which is attached as the cover page of the packet I have been presented for evaluation. The packet includes 15 pages besides the patent references I have been asked to provide evaluations pertaining thereto.

Statement of Professional Credentials and Experience

B. Music Lawrence Conservatory of Music - 1963  
M. Music 1967 and Ph.D. Music Education - U. Michigan 1974  
7 years Public School Music Teacher  
30 years University Music Prof. and Administrator

Date: 4/2/04

Signature: 

Witness: Kathleen Laudate

Pg 1

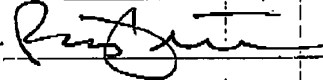
Evaluation by an Expert in the Music Field of References Attached Hereto – and Expert's Answers to Questions Pertaining to the Results of Said Evaluation

*The following questionnaire is presented to evaluator without comment by interviewer other than that the evaluator is to read and answer the instructions and questions presented. The interviewer will also answer any evaluator general questions for understanding the layout of the material presented.*

Name of Evaluator (printed)

Robert Letters

Signature of Evaluator



Date

4-2-04

**Instructions:** Please carefully read the references for (1) Hale (2) Hoffman and (3) Choong attached to this Instruction sheet. Blank pages 1a, 1b & 1c (one pg for each reference) are provided, if needed, for your notes. After reading the references, go to page 2 – do not go to page 2 until you have completed reading the references. The references are patents for inventions and are set up in sections, the titles of which are indicated below here as items 1 – 7. Within each patent, the section titles have been #ed and yellow-highlighted as indicated below to assist in your evaluation process. Between the actual patents, the exact section titles are somewhat inconsistent, however, the #'s below indicate a consistency in what the sections do:

- 1) The title of the patent (Title highlighted & #1 placed beside it).
- 2) Abstract (Abstract title highlighted & #2 placed beside it) – a brief summary of the invention.
- 3) Several pages presenting all the Figures that show the device (highlighted #3 on each page). The text refers back to the numerals that mark the parts of the Figures.
- 4) Background of the Invention (Background title highlighted & #4 beside – this section sometimes has an introduction section included as part of the Background section). The Background section is a summary of a general history related to the patented invention; it includes brief summaries of prior patented inventions.
- 5) Summary of the Invention (Summary title highlighted & #5 beside)
- 6) Brief Description of the Drawings (Brief Description title highlighted & #6 beside). This is a reference section to enable a quick reference to the figures described in the Detailed Description.
- 7) Detailed Description of the Invention and/or Detailed Description of the Drawings (Detailed Description title highlighted & #7 beside).
- 8) **DO NOT READ THIS SECTION;** Claims section, that begin with a statement such as, "What is claimed is:" (What is claimed is highlighted & #8 beside).



Pg 1a Notes For Hale

2000

one octave but with 2 Cs with <sup>crab apple</sup> ~~some~~ <sup>cherry</sup> ~~apple~~ <sup>apple</sup> with C some note?

ages 2-5

individual notes have different emotions?

2 letter patches with  
different symbols?

bass  
(for base?)

what about other pitches + accidentals?

Pg 1b Notes for Hoffman 96

synths live "animals" except for A  
accidentals?

atix synths to a trumpet?

Pg 1c Notes for Choong

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rotating Theory chart

Pg 2

Please initial here verifying that you have read the three references described on, and attached to, page 1, and that you have proceeded to this page only after that review: RR

1) If you were trying to come up with a better way to teach music to your pupils and you had read the three references you've just completed reading – Hale, Hoffman, and Choong; what system would you come up with, drawing from the information of these three reference systems?

Please answer in full. You may refer back to the references and your notes as you respond to the question of this page. Pg 2a is provided as a blank page in case you need more space. After you have answered this question as completely as possible, then proceed to page 3. Do not proceed to page 3 until you have finished answering this question as best you can within reasonable time.

To assist in answering this question, you may wish to make more notes about each of the aspects of each of the three reference systems. Label the notes as "Reference Notes" on these pages provided for answering question 1, and label your answer as "Answer to 1".

Assuming very young children;

① Use visual symbols for each letter, with words that begin with the same letter as the note. <sup>pitch</sup> <sup>easily portrayed as visual symbols</sup>

② These symbols must be able to be placed <sup>easily</sup> on a piano keyboard (or its representation), on music staff paper, or a computer-generated staff.

③ <sup>(2A)</sup> Games should be created to assist in learning how each letter name correlates with its place on the keyboard or staff. <sup>accidentals would need to be introduced</sup> <sup>all over</sup>

④ Once individual pitches with placement have been learned, pitch relationships can be introduced on the keyboard & on the staff. <sup>(intervals & chords)</sup>  
For example - octaves, 3rds, 6ths etc.  
(continued in 4A)

Pg 2a Blank page for continuation of answer to question 1) of pg 1

(consecutive pitches)  
3A) Melodies should ~~then~~<sup>be</sup> introduced as part of  
family. This learning process.  
Students should also create melodies.

4A) Chords (simultaneous pitches) + chord  
progression identification + creation  
can then take place.

Again with games + charts of traditional  
relationships (I-IV-V-I) in different  
keys.

5) Both individual note/symbol identification + <sup>note</sup> chord  
relationships + progressions could be placed  
on <sup>rotating</sup> disks that students would turn to  
match pitch with symbol, or chord notes,  
or even chord progressions.

Pg 3

Please initial here as testament that you have completed your answer to question 1) before proceeding to this page: WT

2) Did you come up with a better way to teach music using Hale, Hoffman and Choong?  
Yes ☒ No ☐

If "yes," proceed directly to page 4 without reading the question on this page, if "no," continue on this page.

3) Can you articulate why you were unable to come up with a system using the information in these three references? Proceed to page 4 after answering this question.

Pg 4

Now review the MacCutcheon system reference attached to page 4 and answer the questions below, but before doing so, please sign here that you have not seen the MacCutcheon Reference until after your evaluation of and conclusions regarding Hale, Hoffman, and Choong:

Date

4-2-04

4) Now that you have evaluated the Hale, Hoffman, and Choong references, and the MacCutcheon reference. Do you see the MacCutcheon system in the first three references or, if you developed a system, in that system? yes ☐ no ☒

Please elaborate. A suggestion to assist you in making your comparison: Make a table and list the elements of the MacCutcheon system and then of the other systems and then note the comparisons you have surmised. Page 4a is provided as a blank page if you need more space.

MacCutcheon	Hale	Hoffman	Choong	Petters
Simple visual symbols with direct	NO	NO	NO	YES
Use of colors <sup>appropriate</sup> <sub>7 different</sub>	YES but only for objects	NO	NO	NO
Introduction of accidentals	NO	NO	NO(?)	YES
Key signatures + clefs	NO	NO	NO	YES
Guide for use with different instruments	NO	NO	NO	NO
Guide for use in vocal music	NO	NO	NO	NO
Chord structure + progressions	NO	NO	YES	YES
3. Identifying what octave each pitch is in	NO	NO	NO	NO
4. Complete notation presentation	NO	NO	NO	NO

### Summary

None of the other references (Hale, Hoffman, Choong) present a system for learning to read music that is can in any way be compared with the MacCutcheon reference. MacCutcheon's system is complete in itself and presents all elements necessary to learn music OVER

Pg 4a

notation, which is absent in the other references. The MacLutcheon system is flexible because it can be used by young children through adults and is adaptable depending on a particular learner's method of learning new information; no other reference comes close to being this flexible and adaptable.



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5) Do you see any disadvantages or advantages of the MacCutcheon system in your comparison with a system that might be derived from Hale, Hoffman, and Choong? yes ☒ no ☐

If "yes," please elaborate, listing the disadvantages or advantages of the MacCutcheon system with a brief description:

Advantages: ① The MacCutcheon system is a complete presentation of music notation in a flexible and adaptive manner.  
② There is no superfluous material presented that could distract the learner from the objective, which is to learn to hear music.

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6) Do you see a system from Hale, Hoffman, and Choong, separately or in combination, or from MacCutcheon that identifies each and every note of music with a unique identity independent of the traditional staff wherein color is used for at least part of the identification? yes ☒ no ☐

If "yes," please identify the system(s) and how it/they does/do that. Can you briefly articulate why or why not any of the other system(s) do not do this?

MacCutcheon has color names that begin with the letter of each note, as do the names of the stylized animal images. Halo's objects have the same first letters as corresponding pitches, but the colors do not. Hoffman and Choong do not use colors.

7) Do you see a system from Hale, Hoffman, and Choong, separately or in combination, or from MacCutcheon that identifies each and every note of music with a unique identity independent of the traditional staff wherein the identification method uses color, plus octave group identifying marks wherein certain of said marks indicate that notes are lower than a base octave group in pitch while certain other of said marks indicate that notes are higher than a base octave group in pitch? yes ☒ no ☐

If "yes," please identify the system(s) and how it/they does/do that. Can you briefly articulate why the other system(s) do not do this?

MacCutcheon uses color and octave group identification. None of the others have this, separately or in combination.

Pg 7

8) Do you see a system from Hale, Hoffman, and Choong, separately or in combination, or from MacCutcheon that identifies each and every note of music with a unique identity independent of the traditional staff wherein the identification uses color and octave group identifying marks wherein marks to the left side of a note mean a note is lower than a base octave group in pitch while marks to the right side of a note mean a note is higher than a base octave group in pitch?  
 yes ☒ no ☐

If "yes," please identify the system(s) and how it/they does/do that. Can you briefly articulate why the other system(s) do not do this?

MacCutcheon uses marks to the right or left side of a note to identify in which octave group pitch is located. None of the others do this.

9) As a music professor, do you think a music teaching system that identifies each and every note of music with a unique identity independent of the staff would be different from, and more useful than, one that doesn't in enabling beginning music students to read note symbols on staves and on instruments? yes ☒ no ☐

10) Do you see a system within Hale, Hoffman, and Choong, or MacCutcheon that enables easy identification of the compositional key of a musical composition? yes ☒ no ☐ ~~PP~~

If "yes," please identify the system(s) and how it/they does/do this:

Only MacCutcheon addresses the quick identification of keys & key signatures by using the appropriate color for flat key and the color for the key signature that matches the note color.

11) As a music professor, do you think a music teaching system that enables the easy identification of the compositional key of a musical composition is different from, and more useful than, one that doesn't? yes ☒ no ☐

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12) Do you see a system within Hale, Hoffman, and Choong, or MacCutcheon that enables easy identification of the notes sharped or flatted in the key signature of a musical composition? -  
yes X no \_\_\_\_\_

If "yes," please identify the system(s) and how it/they does/do this:

Only MacCutcheon's <sup>system</sup> easily identifies accidentals in place with notes (lettering) and uses appropriate colors to identify accidentals in the key signature (colors associated with the notes)

13) Can you see how either Hale, Hoffman, Choong, or MacCutcheon, as each is described, could be effectively used for a wind or brass instrument, including, for example; trombone, clarinet and trumpet? yes X no \_\_\_\_\_

If "yes," please identify the system(s) and in general terms how it/they does/do this.

Only MacCutcheon's system can easily be used for various instruments.

14) Can you see how either Hale, Hoffman, Choong, or MacCutcheon, as each is described, could not be effectively used for a wind or brass instrument, including, for example; trombone, clarinet and trumpet? yes X no \_\_\_\_\_

If "yes," please identify that/those system(s) and why it/they would not be effective.

Hale's system is too cumbersome for someone holding a wind instrument and attempting to use all of the (woodwind or brass) extra symbols

Both Hale & Hoffman do not identify all aspects of music performance notation.

Choong does not address notation reading.  
Also, Hoffman trumpet identification is not possible, because you can't play & see labels at the same time.

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15) Can you see how any one of the Hale, Hoffman or MacCutcheon systems could be used effectively without their object/animal images? yes X no       

If "yes," please identify the system(s) and in general terms how it/they does/do this.

Only the MacCutcheon system can be used effectively - <sup>object</sup> images were removed - because of the color identification system.

16) Can you see how any one of the Hale, Hoffman or MacCutcheon systems could not be used effectively without their object/animal images? yes X no       

If "yes," please identify that/those system(s) and in general terms why it/they would not be effective.

Hale links <sup>note</sup> letter names directly to objects and not colors - so if the images are gone - only great memory would keep students going.  
Hoffman has no other reference than images.

Were you influenced in any way by interviewer, Jane MacCutcheon, regarding your evaluations, or other comments? yes        no X

If "yes," please elaborate:

Signature: [Signature] Date: 4-2-04

## **EXHIBIT C**

## Follow-up Interview Questions for Evaluator re: Evaluation of References

I Robert Petters declare that I continue to maintain my professional objectivity in answering the questions for this follow-up interview after my Evaluation in response to reference material for Hale, Hoffman, Choong, and MacCutcheon. This follow-up consists of five pages total with eleven questions.

Signature:  Date: 4-5-04

1. In your description of the system you developed after looking at Hale, Hoffman, and Choong, you described the use of visual symbols for each pitch letter, with words easily portrayed as visual symbols that begin with the same letter as the note. Were you thinking of those symbols as being images, like objects, that each have a recognizable shape that can be drawn? yes X no       

Elaborate if you wish:

*Images/objects beginning with the same letter  
name as notes can be useful in the  
identification when used with very young  
children.*

2. Do you consider actual visual colors, such as those named amethyst, blue, etc., to be images in the sense of the symbols you described for your system? yes        no X

Elaborate if you wish:

2

3. Do you think of visual colors as images that have a recognizable shape that can be drawn?  
yes \_\_\_\_\_ no ☒ If yes, please draw the shape of the visual colors that are named  
amethyst and blue.

Elaborate if you wish:

4. When you developed your system, did it cross your mind to use the alliterative names of  
colors themselves, e.g., amethyst for "A," blue for "B," etc., for words in your system for  
remembering the note names of music? yes \_\_\_\_\_ no ☒

Elaborate if you wish:

5. Do you think the alliterative naming of colors as mnemonic devices for remembering  
note names is different from the use of the alliterative naming of objects as mnemonic  
devices for remembering note names? yes \_\_\_\_\_ no \_\_\_\_\_

Elaborate if you wish:

Theoretically - no, but practically, using  
alliterative colors is more effective because  
the color can be used right in the note  
heads & stems. An object brings the  
need to remember another step in the  
learning process.

2



3

6. In comparing the two following systems, do you think there are any deficits or benefits of one over the other?

1) A system that uses alliteratively named objects colored the same color as non-alliteratively named colors that are then associated with note names.

2) A system that uses alliteratively named colors that are associated with note names.

yes X no \_\_\_\_\_

If, yes, please elaborate:

#2 is much more simple to understand

7. Do you think that a system that uses alliterative naming of visual colors that alliterate with note names as mnemonic devices for remembering note names is innovative and non-obvious? yes X no \_\_\_\_\_

Elaborate if you wish:

*Before This evaluation,*  
8. Have you ever seen, heard of, or read about a system that uses a set of seven alliterative color names that alliterate with the note names of music to identify the seven note letter names of music? yes \_\_\_\_\_ no X

Elaborate if you wish:

3

9. Would you consider using a system such as the MacCutcheon system as a beginning music teaching system for beginning students? yes X no \_\_\_\_\_

Elaborate if you wish:

*before this evaluation*

10. Have you ever seen, heard of, or read about a seven color system with each color identifying one of the note names of music (wherein the colors are not alliteratively named to alliterate to the note names) combined with an octave group identifying system like that of the MacCutcheon system – having a base octave group with the other octave groups identified with left markers for octave groups lower in pitch than the base octave group and with right markers for octave groups higher in pitch than the base octave group that can be applied easily to the note identifiers on instruments and on a standard staff?

Elaborate if you wish:

YES \_\_\_\_\_ NO X

5

*Before me,*  
11. Have you ever seen, heard of, or read about a seven color system with each color identifying one of the note names of music (wherein the colors are alliteratively named to alliterate to the note names) combined with an octave group identifying system like that of the MacCutcheon system – having a base octave group with the other octave groups identified with left markers for octave groups lower in pitch than the base octave group and with right markers for octave groups higher in pitch than the base octave group that can be applied easily to the note identifiers on instruments and on a standard staff?

Elaborate if you wish:

YES — NO ~~X~~

Were you influenced in any way by interviewer, Jane MacCutcheon, regarding your evaluations, or other comments? yes \_\_\_ no ~~X~~

If "yes," please elaborate:

Signature: Date: 4-5-04

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